WHAT IS CLAIMED IS:

1. A method for selecting an operating mode for a frame-based communications network consisting of a plurality of stations attached to a transmission medium, the plurality of stations including both a first type station and a second type station, the first type station being capable of transmitting and receiving first protocol frames in accordance with a first protocol, the second type station being capable of transmitting and receiving both first protocol frames and second protocol frames in accordance with a second protocol, the first protocol and the second protocol each using different signals on the transmission medium, the first type station not being capable of reliably detecting second protocol frames, the first protocol having a first protocol frame format containing at least two reserved bits in a first protocol frame header which are ignored in received frames by first type stations and always sent with a same fixed value by first type stations, comprising:

each second type station containing a first protocol detect flag cleared upon initialization, a first protocol signalled flag cleared upon initialization, a first protocol detect timer, a first protocol signalled timer, and a periodic link indication timer with a link indication period common to all second type stations, and

redefining the first protocol frame format to provide an updated first protocol frame header wherein two reserved bits in the first protocol frame header are allocated as a mode selection indicator field in the updated first protocol frame header, the mode selection indicator field having meaning for second type stations to include for the two reserved bits:

a first protocol only value equal to a fixed value of a mode selection field transmitted by first type stations and being reserved for transmission only by first type stations,

a first protocol signalled value,

a first protocol detect value, the first protocol signalled value and the first protocol detect value being defined for transmission by second type stations, and

an unused value,

each first type station transmitting frames periodically in accordance with the first protocol frame format, the mode selection indicator field being set to the first protocol only value in transmitted frames, and an interval between frame transmissions being comparable a link indication period common to second type stations;

each second type station, upon receiving a first protocol frame including the mode selection indicator field set to the first protocol value only, setting the first protocol detect flag to set, and starting, or restarting if already running, the first protocol detect timer to expire after a first protocol detect period;

each second type station, upon receiving a first protocol frame including the mode selection indicator field set to the first protocol detect value, or upon transmitting a first protocol frame including the mode selection indicator field set to the first protocol detect value, setting the first protocol signalled flag to set, and starting, or restarting if already running, the first protocol signalled timer to expire after a first protocol signalled period;

each second type station, upon the expiration of the first protocol detect timer, clearing the first protocol detect flag to cleared;

each second type station, upon the expiration of the first protocol signalled timer, clearing the first protocol signalled flag to cleared; and

each second type station determining type of frame to be transmitted, wherein:

second protocol frames are sent if both the first

protocol detect flag and the first protocol signalled flag are cleared, otherwise first protocol frames are sent,

wherein when sending a first protocol frame, the second type station setting the mode selection indicator field in transmitted first protocol frames to the first protocol detect value if the first protocol detect flag is set, otherwise setting the mode selection indicator field to the first protocol signalled value in transmitted first protocol frames if the first protocol signalled flag is set, and the second type station, upon determining that either the first protocol detect flag or the first protocol signal flag is set, sending at least one frame with a destination address set to broadcast each time the periodic link indicator timer expires.

2. The method of Claim 2, wherein the first type station operates in accordance with an HPNA V1.0 protocol, the second type station operates in accordance with an HPNA V2.0 protocol.

3. The method of Claim 1, wherein second type stations may send and receive frames of a compatibility protocol based on a combination of the first protocol and the second protocol and having determined that either the first protocol detect flag or the first protocol signalled flag is set may use compatibility protocol frames instead of the first protocol frames when the intended receiving station is also a second type station.

4. The method of Claim 2, wherein second type stations, having determined that either the first protocol detect flag or the first protocol signalled flag is set, may use compatibility protocol frames having gapped format frames instead of first protocol frames when transmitting frames to other second type stations.

5. The method of Claim 1, wherein:

a second type station, upon receiving a first frame after restarting or after a long period without receiving any frames, the mode selection indicator field in the first frame being set to the first protocol signalled value, setting its first protocol detect flag to set and setting the first protocol detect timer to a first protocol detect reset interval, the first protocol detect reset interval being long enough for the station to transmit one or more frames as a result of a link integrity timer expiration, which frames will contain the first protocol detect value in the mode selection indicator field, thereby resetting the first protocol signalled timers in all second type stations.

6. The method of Claim 1, wherein:

a second type station, upon receiving a first frame after restarting or after a period without receiving any frames, the mode selection indicator field in the first frame being set to the first protocol signalled value, setting the first protocol detect flag to set and setting the first protocol detect timer such that resulting the second type station transmits two frames as a result of a link integrity timer expiration, the two frames containing first protocol detect value in the mode selection indicator field, thereby resetting the first protocol signalled timers in all second type stations.